

Name: \_\_\_\_\_

### at1110paper\_practice\_test (v42)

1. Expand the following expression into standard form.

$$(3x + 2)(9x + 4)$$

$$27x^2 + 12x + 18x + 8$$

$$27x^2 + 30x + 8$$

2. Expand the following expression into standard form.

$$(7x - 3)^2$$

$$49x^2 - 21x - 21x + 9$$

$$49x^2 - 42x + 9$$

3. Factor the expression.

$$49x^2 - 81$$

$$(7x + 9)(7x - 9)$$

4. Solve the equation.

$$6x^2 + 22x + 16 = 3x^2 + 5x - 4$$

$$3x^2 + 17x + 20 = 0$$

$$(3x + 5)(x + 4) = 0$$

$$x = \frac{-5}{3} \quad x = -4$$

5. Factor the expression.

$$x^2 - 6x - 27$$

$$(x + 3)(x - 9)$$

6. Solve the equation.

$$(5x + 9)(7x + 3) = 0$$

$$x = \frac{-9}{5} \quad x = \frac{-3}{7}$$

7. Solve the equation with factoring by grouping.

$$12x^2 - 18x + 10x - 15 = 0$$

$$(6x + 5)(2x - 3) = 0$$

$$x = \frac{-5}{6} \quad x = \frac{3}{2}$$

8. Expand the following expression into standard form.

$$(7x - 3)(7x + 3)$$

$$\begin{aligned} 49x^2 + 21x - 21x - 9 \\ 49x^2 - 9 \end{aligned}$$